longer than the body, often equalling the flowers, outer sepals obovate, almost truncately obtuse at apex (*ex. char.*).

I have not seen specimens of this variety but, judging from the description, it belongs here. Greene cites only one collection: Camp Charlotte, Texas, 1889, *Nealley*.

University of Hawaii, Honolulu,
June, 1936.

AN UNDESCRIBED SPECIES OF VIOLA FROM UTAH

Milo S. Baker

Viola Clauseniana sp. nov. Herba acaulescens; rhizoma simplex, carnosum radices numerosas adventitias ferens; folia 3–5 cm. lata, 4–5 cm. longa subtus venis sparsissime pilosa aliter glabra, prostrata deltoidea decurrentia crasse et acute serrata apicibus obtusis; petioli 5–11 cm. longi alati; stipulae 1.5–2 cm. longae anguste lanceolatae, inconspicue glanduloso-dentatae; pedunculi 8–14 cm. longi crassi erecti; bracteolae 5–6 mm. longae subulatae floribus propinquae; sepala 2–3 mm. lata 7–9 mm. longa ovato-lancolata acutiuscula crasse nervata auriculis sparse pubescentibus; corolla lilacina petalis omnibus in parte inferiore pallidioribus; petala superiora 7 mm. lata 15 mm. longa anguste obovata, petala lateralia 7 mm. lata 15 mm. longa oblongo-obovata imberbia, petalum infimum 8 mm. latum 20 mm. longum oblongo-spatulatum calcare obtuso complanatiusculo incluso; staminum appendices anteriores ochroleucae posteriores 1.2 mm. lata 3 mm. longae virides; pistillum 5 mm. longum; stylus capitellatus ovario non flexus, tuba stigmatosa brevi nuda, foramine diametro tertiam partem capituli; flores cleistogami complures; capsula 6–7 mm. lata 8–10 mm. longa oblonga apice truncato; semina 1.2 mm. lata 2 mm. longa nigra minute scabrida, pondere 1 mg.; caruncula subterminalis seminis dimidio brevior.

Acaulescent; rootstock simple, fleshy, giving rise to numerous adventitious roots; leaves prostrate forming a rosette which may reach 28 cm. in diameter; glabrous except for occasional hairs along the veins on the ventral surface of the leaves; leaf blades conspicuously deltoid, decurrent on the petiole, coarsely and sharply serrate, obtuse at apex, 3 to 5 cm. wide, 4 to 5 cm. long, on winged petioles 5 to 11 cm. in length; stipules narrowly lanceolate, faintly glandular-toothed, 1.5 to 2 cm. long; peduncles unusually stout, erect 8 to 14 cm. high, bractlets subulate, near the flower 5 to 6 mm. long; sepals conspicuously nerved, slightly pubescent on the auricles, ovate-lanceolate, somewhat acute, 2 to 3 mm. wide, 7 to 9 mm. long; corolla light violet with a lighter center, 2.5 cm. in diameter; upper petals narrowly obovate 7 mm. wide, 15 mm. long; lateral petals oblong-obovate, wholly beardless, 7 mm. wide, 15 mm. long; spur petal oblong-spatulate 8 mm.

wide at end and 20 mm. to end of broad somewhat flattened obtuse spur; anterior appendages of stamens tan colored, closely enclosing style, posterior appendages green, 1.2 mm. wide, 3 mm. long; pistil 5 mm. long, style without flexure at ovary, capitate, naked, stigmatic tube short, foramen one-third diameter of head; cleistogamous flowers abundant after early spring, producing most of the seeds; capsule oblong, truncate at apex, 6 to 7 mm. wide, 8 to 10 mm. long; seeds minutely roughened, nearly black, 1.2 mm. wide, 2 mm. long, weight 1 mg., caruncle latero-terminal, extending about one-half the length of the seed.

Type: Zion National Park, Utah, July 5, 1936, *M. S. Baker 8438* (Herb. Univ. Calif. no. 575768). This species was collected at the base of Weeping Rock on the south side of the canyon where sunlight seldom, if ever, reaches. In competition with rather rank vegetation, the leaves of some of the plants are erect and very tall but in the open they spread out without reaching a great height. Transplanted to the garden at Kenwood, California, the plants grow vigorously producing an enormous number of seeds, mainly from cleistogamous flowers which develop capsules until growth is stopped by winter cold. The area in which this species grows is very small, scarcely one hundred feet in diameter (as remembered), densely covered with shrubs, trees and herbaceous plants. The only known plants grow near a trail used by thousands of tourists and, unless measures are taken to protect them, are in great danger of extermination. Mr. K. E. Weight, naturalist during the summer of 1936, reports that this species does not occur elsewhere in the Park.

Viola Clauseniana belongs in section *Nomimium* Ging, subsection *Plagiostigma* Godr. group *Boreali-Americanae* Becker, series *Cucullatae* Gersh. It is sharply distinguished from any other known member of this series by the beardless petals, the deltoid leaf outline and the prostrate habit of the leaves. *Viola nephrophylla* Greene is its nearest known relative.

At a higher elevation (9000 feet) at Navaho Lake, only a few miles distant, was found another member of this group, *Viola arizonica* Greene. This species however is much more closely related to *V. nephrophylla* than to *V. Clauseniana*. At a lower elevation and only about thirty miles distant by airline, the writer collected *V. nephrophylla* in typical form. This locality is seven miles north of Kanab, Utah, along the highway to the north rim of Grand Canyon. These plants showed not the slightest variation toward the species under discussion. Under such circumstances one is forced to the conclusion that *V. Clauseniana* is a relict of an earlier age, not closely related to any living species, which has survived at this one spot in Zion National Park.

This violet is named in honor of Dr. Jens Clausen, cytogeneticist of the Carnegie Institution of Washington, Stanford

University, California, who has been most helpful in solving many problems connected with our western violets.

Santa Rosa Junior College,
Santa Rosa, California,
December 6, 1937.

REVIEWS

Botanical Studies in the Uinta Basin of Utah and Colorado. By Edward H. Graham. Annals of the Carnegie Museum. Volume XXVI. Pp. 1–432. Pl. I–XIII. Carnegie Museum, Pittsburgh, Pennsylvania. 1937.

This comprehensive study of one of the little known natural areas of the western United States represents the results of three Carnegie Museum expeditions to the Uinta Basin in the summers of 1931, 1933, and 1935. In this work 1104 species of vascular plants are recorded from the Basin, an area of 12,000 square miles. Five new species and two new varieties are included. The annotated list of species is based upon collections by the author of some 3500 numbers and a few additional collections by others. Most of these specimens are deposited in the herbarium of the Carnegie Museum. In addition to the annotated list there are discussions of the history of exploration in the Basin, the physiography and climate of the area, the altitudinal vegetation zones and plant communities. The geographic affinity of the flora and endemism are discussed briefly. A list is given of range extensions. The bibliography of the region lists 93 publications.

This study shows a minute attention to detail in its preparation; most of the identifications were checked by specialists; and the entire volume shows the author's intimate knowledge of the botany of the region. Such a complete survey of a natural geographic area is a definite contribution to our knowledge of western flora.—Mildred E. Mathias.

Illustrated Dictionary of Botanical Terms. Excerpt from "An Introduction to Botany" by John Lindley, 1848, containing pages 319, 346–383. Reprinted by Alice Eastwood, California Academy of Sciences, San Francisco, with the cooperation of the San Francisco Garden Club. 1938. Paper. $.50.

Originally published in 1848 this illustrated glossary of botanical terms with Latin equivalents used in the description and naming of plants has proved most useful to professional and amateur botanists. The reprinting of the pages of this glossary in a convenient pamphlet is a valuable contribution. Copies are obtainable from Miss Eastwood.—Mildred E. Mathias.

The California Salvias. A Review of Salvia, Section Audibertia. By Carl Epling. Annals of the Missouri Botanical Garden. Volume XXV, Number 1. Pp. 95–188 with 19 plates and 14 text figures. St. Louis, February, 1938.